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## NOTES ON ANT LIONS.

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One day on my late visit to Ridgeway, a party of four went on an entomological excursion by boat to a place about four miles west, called Point Abino. After taking a survey of the situation and lightening our lunch basket, we went to work. Each had his specialty; one desired beetles, another butterflies. Seeing *Myrmelion* on the wing, I turned my attention to the Ant Lions. I did not succeed in securing many of them, for although the funnel-shaped pits of the nymphs were in surprising numbers, very few of the mature insects were to be seen, it being probably a little too early for them. I captured but four specimens, one *obsoletus*, and three of what was kindly determined for me by Dr. Hagen, of Cambridge, Mass., as *Myrmelion abdominalis* Say, whose figured-gauze wings are charming objects seen through a lens. The slight acquaintance I have with them has been acquired during my visits to Ridgeway, none of them having ever been seen about Hamilton so far as I know. Mr. J. Pettit secured an *obsoletus* while he was collecting at Grimsby, but I think he never got a second, although no doubt they were there to some extent, but probably very scarce. Fine loose sand is evidently a necessity of their existence in any locality, and I would suppose comparative seclusion; both of these they have in perfection at Point Abino. I saw large patches of sand so loose that weeds could not take root upon it, and which had not been disturbed by the foot of man or beast probably for weeks, and some of these places were so occupied with their pits that it did not seem possible to get another one in without interfering with those already there. These pits were about three inches across the top, and two or two and a half deep. Their width must be in exact proportion to their depth, for the slope of the sides is just what will support the particles of loose sand. They must have their pits to make frequently during their larval existence, for every heavy shower will fill them all up. They never expose themselves to view except by accident, but lie just immediately under the

surface. The larva is provided with an apparatus for throwing up the sand, which it can do with sufficient force to scatter it for four or five inches around, and with the rapidity at times of the tick of a watch, working itself downwards as it throws off that above it, the sand flowing in as it deepens, which it jerks up again, the most of which falls outside the range of the pit ; and so continues the operation until the required dimensions are obtained, when it lies perfectly still at the bottom and awaits events. An industrious ant out on a foraging expedition, in the hurry of its eager search runs over the edge of the pit. The lion at the bottom seems to be instantly aware of the fact, and begins throwing up jets of sand with great rapidity, which come showering down, frightening the ant, and it makes frantic efforts to get out ; but the more vigorously it scrambles for the top, the more rapidly it slides to the bottom, where it is at once seized. The struggle ensuing dislodges the loose sand, and a miniature avalanche pours down from all sides, which materially assists the lion to secure its victim, and the ant is soon taken out of sight. I am not aware that it has any means of enticing its prey, and as it does not go searching for it, but is entirely dependent on what happens to come in its way, I suspect it must have many a long wait between meals.

The mature insect is neither a rapid nor a graceful flier, but flaps its wings in a heavy, clumsy manner, quite different from what one would expect in so exquisitely delicate a creature. It prefers to alight in an upright position, and rests with its wings folded close to its sides.

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### AN ICHNEUMON PARASITE OF MAMESTRA PICTA.

BY F. B. CAULFIELD, MONTREAL.

On July 19th, 1881, a caterpillar of this moth was found on a cauliflower which had been brought from market, and was placed in a tumbler with some of the leaves. By the 21st it had shrunk considerably in size, and was greatly changed in appearance, the black and yellow markings that make this larva so conspicuous an object having faded to a dull whitish color. On the 22nd it was lying on the bottom of the glass and was revolving continuously. Under natural conditions it would, I believe, have entered the earth to go through its transformations, and the curious revolving motion might perhaps have been for the purpose of forming and smoothing its cell. On looking at it on the morning of the 23rd, a soft